



# MATERIAL SAFETY DATA SHEET

F-4564-A

(Essentially similar to U.S. Department of Labor Form OSHA-20)

Do Not Duplicate This Form. Request an Original

MAY 28 1982



## I. PRODUCT IDENTIFICATION

PRODUCT	Argon (Cryogenic Liquid)	DPM 150-1
CHEMICAL NAME	Argon	SYNONYMS ---
FORMULA	Ar	CHEMICAL FAMILY Rare Gas
TRADE NAME AND SYNONYMS	---	MOLECULAR WEIGHT 39.948

## II. HAZARDOUS INGREDIENTS

Refer to Section V for TLV information.  
For mixtures of this product request the respective component Material Safety Data Sheets.

## III. PHYSICAL DATA

BOILING POINT, 760 mm. Hg	-185.9°C (-302.6°F)	FREEZING POINT	-189.2°C (-308.6°F)
SPECIFIC GRAVITY (H <sub>2</sub> O = 1)	1.4 @ b.p.	VAPOR PRESSURE AT 20°C.	Gas
VAPOR DENSITY (air = 1)	1.38 @ 70°F	SOLUBILITY IN WATER, % by wt.	Negligible
PER CENT VOLATILES BY VOLUME	100	EVAPORATION RATE (Butyl Acetate = 1)	High
APPEARANCE AND ODOR	Colorless, odorless		

## IV. FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (test method)	NA	AUTOIGNITION TEMPERATURE	NA
FLAMMABLE LIMITS IN AIR, % by volume	LOWER NA	UPPER NA	
EXTINGUISHING MEDIA			

Argon cannot catch fire. Use media appropriate for surrounding fire.

## SPECIAL FIRE FIGHTING PROCEDURES

Evacuate all personnel from danger area. Immediately deluge containers with water spray from maximum distance until cool, then move containers away from fire area if without risk.

Do not discharge water sprays into liquid Argon.

## UNUSUAL FIRE AND EXPLOSION HAZARDS

Liquid or vapor cannot catch fire. Closed container may rupture due to heat of fire. Liquid Argon will freeze water rapidly. Containers are provided with a pressure relief device designed to vent contents when they are exposed to elevated temperature.

## EMERGENCY PHONE NUMBER

IN CASE OF EMERGENCIES involving this material, further information is available at all times at this telephone number:

304: 744-3487

For routine information contact your local Linde Supplier.

While Union Carbide Corporation believes that the data contained herein are factual and the opinions expressed are those of qualified experts regarding the tests conducted, the data are not to be taken as a warranty or representation for which Union Carbide Corporation assumes legal responsibility. They are offered solely for your consideration, investigation, and verification. Any use of these data and information must be determined by the user to be in accordance with applicable Federal, State, and local laws and regulations.

UNION CARBIDE CORPORATION ■ LINDE DIVISION ■ 270 PARK AVENUE, NEW YORK, N.Y. 10017

F-4564-A

BOE-C6-0208289

PRODUCT: Argon (Cryogenic Liquid)

F-4564-A

## V. HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE Simple asphyxiant (ACGIH-1979)

## EFFECTS OF OVEREXPOSURE AND EMERGENCY AND FIRST AID PROCEDURES

Contact with the liquid may produce a cold injury. Asphyxiation, dizziness, unconsciousness, death.

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician. Keep warm and at rest. If exposed to liquid, restore to normal body temperature (98.6°F) as rapidly as possible followed by protection of the injured tissue from further damage and infection. Remove any clothing that may constrict blood circulation to the frozen area. Call a physician. Rapid warming of the affected part is best achieved by using water at 108°F. Under no circumstances should the water be over 112°F, nor should the frozen part be rubbed either before or after rewarming. The patient should neither smoke nor drink alcohol.

## VI. REACTIVITY DATA

STABILITY		CONDITIONS TO AVOID
Unstable	Stable	
	X	

Heat (See Section IX).

INCOMPATIBILITY (materials to avoid) Inert

HAZARDOUS DECOMPOSITION PRODUCTS

None

HAZARDOUS POLYMERIZATION		CONDITIONS TO AVOID
May Occur	Will not Occur	
	X	

---

## VII. SPILL OR LEAK PROCEDURES

## STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED

Evacuate all personnel from danger area. Allow spilled liquid to evaporate. Shut off leak if without risk. Move leaking assembly to ventilated area or ventilate area of leak. Use self-contained breathing apparatus where needed. Test area, especially confined areas, for sufficient oxygen content prior to permitting re-entry of personnel.

## WASTE DISPOSAL METHOD

Slowly release into atmosphere outdoors.

**VIII. SPECIAL PROTECTION INFORMATION****RESPIRATORY PROTECTION (specify type)**

Self-contained breathing apparatus where needed.

VENTILATION	LOCAL EXHAUST Preferred
	MECHANICAL (general) Adequate
	SPECIAL            ---
	OTHER            ---

**PROTECTIVE GLOVES**            Loose fitting Cryogenic gloves.**EYE PROTECTION**            Safety glasses and a full face shield.**OTHER PROTECTIVE EQUIPMENT**    Metatarsal shoes for cylinder handling. Protective clothing where needed.  
Cuffless trousers should be worn outside the shoes.**IX. SPECIAL PRECAUTIONS**

Extremely cold liquid and gas.

**WARNING:** Contact with liquid causes Cryogenic (Phregoric) burns. Vapor can cause rapid suffocation due to oxygen deficiency. Protect containers against physical damage. Store and use with adequate ventilation. Close valve when not in use and when empty. Use piping and equipment adequately designed to withstand pressures and temperatures to be encountered. Do not get liquid in eyes, on skin or clothing. Do not strike arc on container. Do not ground container.

**OTHER HANDLING AND STORAGE CONDITIONS**  
---

**UNION CARBIDE CORPORATION  
LINDE DIVISION**

**GENERAL OFFICES: NEW YORK  
OFFICES IN PRINCIPAL CITIES**



**LINDE  
DIVISION**

**Lithographed in U.S.A.  
F-4564-A 80-0927 5/80 5C**

**BOE-C6-0208292**